

**Please amend claims as follows:**

**(All the claims are herewith reproduced).**

1. (Previously Amended) A flameless tracer utilizing heat marking chemicals, for use with a projectile, comprising:

a first heat chemical carried by the projectile for emitting heat during a flight of the projectile such heat visible to an observer with thermal sensing devices and/or night vision devices ; and

a second heat chemical delivered by the projectile, for marking a target upon impact by the projectile.

2. (Currently Amended) The tracer of claim 1, wherein the first heat chemical comprises a chemiluminescent chemical for emitting heat light visible to the observer during flight of the projectile.

3. (Currently Amended) The tracer of claim 2, wherein the second heat chemical comprises a chemiluminescent chemical to mark the target upon impact by the projectile with heat light visible to the observer.

4. (Previously Amended) The tracer of claim 1, wherein the first and second heat chemicals are contained in separate bags within the projectile.

5. (Originally submitted) The tracer of claim 4, wherein the separate bags are contained in a containment bag.

6. (Canceled) The tracer of claim 4, wherein the separate bags break during launch of the projectile, mixing the heat chemicals.

7. (Originally submitted) The tracer of claim 5, wherein the containment bag does not break during launch or flight of the projectile, but breaks on impact of the projectile with the target, scattering the second heat chemical on the target.

**BEST AVAILABLE COPY**

8. (Currently Amended) The tracer of claim 5, wherein the containment bag does not break during gun launch, flight of the projectile, or impact of the projectile with the target, thereby scattering the containment bag ~~bags~~ intact with the second heat chemical on the target.

9. (Originally submitted) The tracer of claim 5, wherein the containment bag is installed in the projectile with a sticky substance; and  
wherein upon the projectile impacting the target, the sticky substance disperses over the target, causing the containment bag to adhere on the target.

10. (Originally submitted) The tracer of claim 9, wherein the sticky substance is made, at least in part, of silicone.

11. (Previously Amended) The tracer of claim 3, wherein the first and second heat chemicals are contained in a plurality of glass vials.

12. (Originally submitted) The tracer of claim 11, wherein the glass vials are restrained by a spider.

13. (Previously Amended) The tracer of claim 11, wherein the chemiluminescent chemicals are contained in some of the glass vials.

14. (Previously Amended) The tracer of claim 13, wherein a sticky substance is contained in some glass vials; and  
wherein upon the projectile impacting the target, the sticky substance disperses over the target, causing the chemiluminescent chemicals to adhere on the target.

15. (Canceled) The tracer of claim 12, wherein the glass vials are restrained by the spider and placed with the second heat chemical in the projectile.

16. (Canceled) The tracer of claim 15, wherein the glass vials break during gun launch of the projectile, mixing the first and second heat chemicals and the sticky substance.

17. (Canceled) The tracer of claim 1, wherein the projectile is made at least in part, of a heat conducting material, allowing the heat chemicals to trace a projectile path in addition to marking the target.

18. (Previously Amended) The tracer of claim 3, wherein the projectile is made at least in part, of any one of a transparent or translucent materials wherein the chemiluminescent chemicals trace a projectile path in addition to marking the target.

19. (Previously Amended) A flameless marker utilizing heat marking chemicals, for use with a projectile, comprising:

a first heat chemical carried by the projectile for emitting heat during a flight of the projectile such heat visible to an observer with thermal sensing devices and/or night vision devices; and

a second heat chemical delivered by the projectile, for marking a target upon impact by the projectile.

20. (Currently Amended) The marker of claim 19, wherein the first heat chemical comprises a chemiluminescent chemical for emitting heat light visible to the observer during flight of the projectile.

21. (Currently Amended) The marker of claim 20, wherein the second heat chemical comprises a chemiluminescent chemical to mark the target upon impact by the projectile with heat light visible to the observer.

22. (Previously Amended) The marker of claim 19, wherein the first and second heat chemicals are contained in separate bags within the projectile.

23. (Originally submitted) The marker of claim 22, wherein the separate bags are contained in a containment bag.

24. (Previously Amended) The marker of claim 22, wherein the separate bags break during launch of the projectile, mixing the heat chemicals.

25. (Originally submitted) The marker of claim 23, wherein the containment bag does not break during launch or flight of the projectile, but breaks on impact of the projectile with the target, scattering the second heat chemical on the target.

26. (Previously Amended) The marker of claim 23, wherein the containment bag does not break during gun launch, flight of the projectile, or impact of the projectile with the target, scattering intact containment bags with the second heat chemical on the target.

27. (Originally submitted) The marker of claim 23, wherein the containment bag is installed in the projectile with a sticky substance; and  
wherein upon the projectile impacting the target, the sticky substance disperses over the target, causing the containment bag to adhere on the target.

28. (Originally submitted) The marker of claim 27, wherein the sticky substance is made, at least in part, of silicone.

29. (Originally submitted) The marker of claim 19, wherein the first and second heat chemicals are contained in a plurality of glass vials.

30. (Previously Amended) The marker of claim 29, wherein the glass vials are restrained by a plastic mounting piece.

31. (Currently Amended) The marker of claim 30 29, wherein the first and second chemiluminescent chemicals are contained in some of the glass vials.

32. (Originally submitted) The marker of claim 31, wherein a sticky substance is contained in some glass vials; and

wherein upon the projectile impacting the target, the sticky substance disperses over the target, causing the first and second chemiluminescent chemicals to adhere on the target.

33. (Previously Amended) The marker of claim 32, wherein the glass vials are restrained by said plastic mounting piece and placed with the second heat chemical in the projectile.

34. (Originally submitted) The marker of claim 33, wherein the glass vials break during gun launch of the projectile, mixing the first and second heat chemicals and the sticky substance.

35. (Originally submitted) The marker of claim 19, wherein the projectile is made at least in part, of a heat conducting material, allowing the heat chemicals to trace a projectile path in addition to marking the target.

36. (Previously Amended) The marker of claim 21, wherein the projectile is made at least in part, of a transparent material wherein the chemiluminescent chemicals trace a projectile path in addition to marking the target.

37. (Previously Amended) The marker of claim 35, wherein the projectile is made at least in part, of a non-heat conducting material, wherein no heat trace is seen of the projectile flight to the target but only a heat mark is detected on the target after projectile impact with the target.

38. (Previously Amended) The marker of claim 36, wherein the projectile is made at least in part, of a non-heat conducting material, wherein no heat trace is seen of the projectile flight to the target but only a heat mark is detected on the target after projectile impact with the target.

39. (Currently Amended) A flameless tracer utilizing heat marking chemicals, for use with a plurality of projectiles, comprising:

- a first heat chemical carried by the plurality of projectiles for emitting heat during a flight of the plurality of projectiles such heat visible to an observer with thermal sensing devices or and/or night vision devices; and

- a second heat chemical delivered by the plurality of projectiles, for marking a target upon impact by the plurality of projectiles.

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☐ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☐ **FADED TEXT OR DRAWING**

☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☐ **GRAY SCALE DOCUMENTS**

☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**